HAZARDOUS WASTE REDUCTION CHECKLIST

A SELF ASSESSMENT GUIDE FOR BOAT YARDS

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of Waste Management
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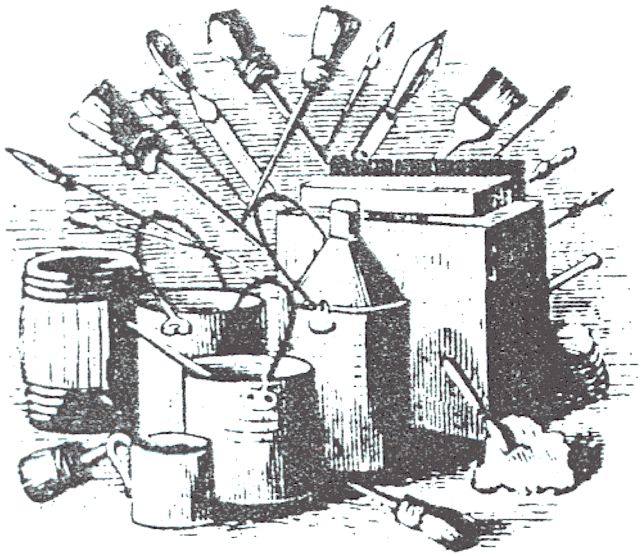

Introduction

This Checklist is designed to assist you, the boat yard operator, in conducting a hazardous waste assessment of your operations. By answering the questions contained in the Checklist, you will be able to identify opportunities for reducing the quantity of hazardous wastes generated on-site. Waste minimization strategies typically make reducing or eliminating the use of hazardous substances the first priority and reusing or recycling hazardous wastes a favorable second priority. Implementing waste minimization helps reduce hazardous waste management and disposal costs and promotes regulatory compliance.

How to Use this Checklist

This Checklist contains questions about various aspects of your boat repair business. The questions are answered by checking a "yes" or "no" response box. After answering the questions in the Checklist, review those for which you responded "no" and evaluate the feasibility of implementing those measures.

The cost of a waste minimization measure should be evaluated not only in terms of the short term investment in a piece of equipment or providing a service, but also in terms of the potential long term savings. **Remember, pollution costs money**. The costs of pollution can manifest in a variety of ways, including increased waste disposal costs, potential site contamination and cleanup costs, and potential costs of employee injury or illness.

Preventing pollution saves money in the long term. For example, boat yards can save money on waste disposal costs by preventing contamination of recyclable oil or by reclaiming and reusing spent solvents. Hazardous waste minimization can also be achieved through "product substitution," i.e. using less-toxic products whenever possible.

Another way to look at costs is to factor in the potential liability of hazardous waste contamination. On-site contamination by oil, sewage, fuel or other hazardous materials can be expensive to clean up and may present a problem should you wish to sell the property. A business which has a contamination problem may have a hard time selling the property without taking significant and expensive steps to remediate the problem. It's often easier and less expensive to employ pollution prevention measures before contamination occurs.

ACKNOWLEDGMENTS

The author gratefully acknowledges the following organizations and publications for ideas and concepts contained in this Guide:

California Department of Health Services, "Waste Audit Study: Marine yards for Maintenance and Repair," August 1989. Prepared by SCS Engineers for the Alternative Technology Section, Toxic Substances Control Division.

California Department of Toxic Substances Control, "Hazardous Waste Minimization Checklist and Assessment Manual for Marine Ship and Pleasure Vessel Boat Yards," September 1993. Prepared by the Office of Pollution Prevention and Technology Development.

North Carolina Department of Natural Resources and Community Development, "Marine Maintenance and Repair: Waste Reduction and Safety Manual," (c) 1989. Prepared by the *Pollution Prevention Pays Program*.

Small Business Center for Education, "Handling Hazardous Waste: A Resource Guide for Small Boat Yards and Marinas," August 1990, Bellevue, Washington.

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This Checklist is brought to you by:

Marin County Hazardous and Solid Waste Management Authority

Marin County Hazardous and Solid Waste Management Authority was established by the cities, districts and county to coordinate, implement, and enforce countywide programs dealing with solid and hazardous waste, hazardous materials and underground storage tanks. Through the **Office of Waste Management**, the Authority provides technical assistance, encourages public/private partnerships, and provides overall program planning and implementation of the County's Integrated Solid Waste Management Plan.

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I. MANAGEMENT POLICY

Waste reduction programs are most effective when promoted by management and supported by employees. Your pollution prevention efforts will be successful only if employees get the clear signal from management that the company is committed to hazardous waste minimization. The following section suggests methods for structuring and implementing a strong management policy favoring pollution prevention.

■ Does your company have a hazardous waste management and waste reduction program in place?

☐ Yes ☐ No ☐ NA

■ Is management fully aware of the current local, state, and federal regulations related to hazardous materials storage, treatment, recycling and disposal? Are employees?

☐ Yes ☐ No ☐ NA

■ Is a specific employee assigned to oversee the program?

☐ Yes ☐ No ☐ NA

■ Is responsibility for each aspect of waste management (i.e. inventory, labeling and disposal) clearly designated?

☐ Yes ☐ No ☐ NA

■ Does your company have a written policy that shows strong commitment to pollution prevention? Does the policy recognize the hierarchy of priorities as: 1) reduction of use of hazardous substances and reduction of hazardous waste, 2) recycling, 3) waste treatment. (This policy might be in the form of a Best Management Practices Plan, which may be required by your Regional Water Quality Control Board.)

☐ Yes ☐ No ☐ NA

■ Are employees aware of the company's policy and are incentives provided for employees to further the goals of this policy?

☐ Yes ☐ No ☐ NA

■ Is management fully aware of the current local, state, and federal regulations related to hazardous materials storage, treatment, recycling and disposal? Are employees?

☐ Yes ☐ No ☐ NA

II. EMPLOYEE SAFETY AND TRAINING

Various employee training programs for hazardous materials handlers are required by law. These programs address worker safety and right to know issues, injury and illness prevention, emergency response preparedness, hazardous waste generator spill cleanup procedures, and other measures designed to minimize injuries and accidents. Contact your local environmental health or waste management agency for more information.

■ Has your facility investigated which employee safety and training programs must be implemented at your facility?

❒ Yes ❒ No ❒ NA

■ Is your facility in compliance with all of the employee safety and training requirements?

❒ Yes ❒ No ❒ NA

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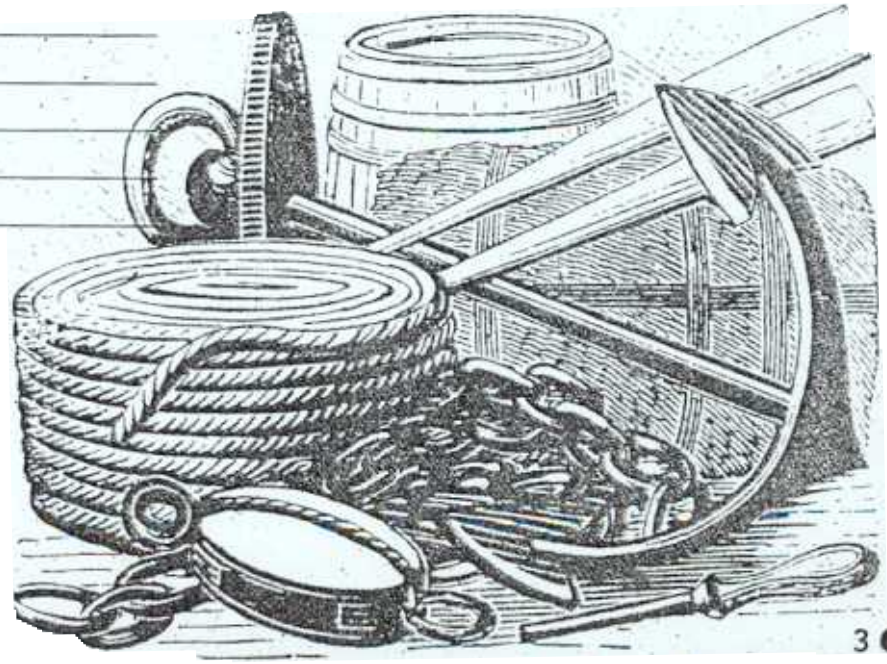

III. HAZARDOUS MATERIAL STORAGE AND HANDLING

Proper storage and handling of hazardous materials are effective methods of minimizing the generation of hazardous waste and preventing the contamination of storm water run-off.

■ Are storage areas paved and covered? (Coverage is important because rainwater can contaminate raw materials, and exposure to sunlight can change the characteristics of raw materials or increase pressure inside sealed containers.)

☐ Yes ☐ No ☐ NA

■ Are storage areas locked at all times? (Locks prevent unauthorized persons from harming themselves, spilling materials, tampering with materials, or dumping unauthorized waste.)

☐ Yes ☐ No ☐ NA

■ Do the storage areas allow for containment of leaks or spills? (Providing berms, dikes, or curbing will contain spills.)

☐ Yes ☐ No ☐ NA

■ Do you have procedures for handling leaks and spills? Are employees familiar with them?

☐ Yes ☐ No ☐ NA

■ Are rags and other absorbent materials used to clean up spills of oil and other hazardous materials disposed of as hazardous waste? Is the absorbent material disposed of as hazardous waste? (If absorbent pads are used, the oil should be drained, if possible, into your oil collection receptacle prior to disposal. Some absorbent pads can be reused.)

☐ Yes ☐ No ☐ NA

■ Are storage containers equipped with tight-fitting lids?

☐ Yes ☐ No ☐ NA

■ Are drum bung holes sealed or fitted with tight valves?

☐ Yes ☐ No ☐ NA

■ Are materials transfers conducted with the aid of spigots, pumps and/or funnels, when appropriate? Are drip pans used beneath spigots and valves to collect spills and drips?

☐ Yes ☐ No ☐ NA

■ Are any of the following measures used to control inventory? Stockroom attendant? Sign-out sheet? Limited access? First in, first out? Expiration dates clearly marked and monitored? (First in, first out systems eliminate waste caused by allowing materials to exceed shelf life. The first shipments are dispensed before later ones.)

☐ Yes ☐ No ☐ NA

■ Are material inventories computerized? (Since some regulatory agencies require you to provide exact descriptions of amount of each product used and for which job, computerization saves hours of searching through records. Furthermore, you will be better equipped to track how much material is used and how much is remaining. This makes sense with larger operations as it allows you to keep inventory at a level where new material is arriving just as you use up materials.)

☐ Yes ☐ No ☐ NA

■ Are obsolete materials returned to the supplier, if possible?

☐ Yes ☐ No ☐ NA

■ Do you inspect raw materials before accepting them?

☐ Yes ☐ No ☐ NA

■ Do you conduct periodic inspections of materials in storage? (Such inspections should determine if materials are near the end of their shelf life, and whether containers of product and waste materials are leaking or in a condition which may permit leakage.)

☐ Yes ☐ No ☐ NA

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IV. OPERATIONS

Waste minimization opportunities exist in the day to day operations of most businesses. Some of the most important waste reduction strategies are based upon simple low cost activities like sweeping the yard on a daily basis.

■ If you perform sandblasting, are practices implemented to keep sandblast grit in a contained area? (Tarps, drop cloths and protective drapes should be used to control fugitive airborne emissions. Don't perform this operation in windy conditions. Weight the bottom of the tarp or plastic sheeting so it will remain secure.)

❒ Yes ❒ No ❒ NA

■ Are sandblast grit, sanding grit, barnacles and solids swept up on a daily basis? (Good housekeeping practices, such as frequent sweeping, prevent contamination of storm water runoff and sediment contamination.)

❒ Yes ❒ No ❒ NA

■ Are measures taken to contain airborne paint emissions from spray paint operations? (Whenever possible use a spray booth. Otherwise, tarps, drop-cloths and protective drapes should be used to control fugitive airborne emissions and prevent contamination of yard surfaces and receiving waters. Do not perform this operation in windy conditions. Weight the bottom of tarp or plastic sheeting so it will remain secure.)

❒ Yes ❒ No ❒ NA

■ Do you use High Velocity Low Pressure (HVLP) or High Efficiency Low Pressure (HELP) spray guns for spray painting? (This equipment not only reduces paint spray emissions, it reduces the amount of paint required for a job, resulting in cost savings and waste minimization.)

❒ Yes ❒ No ❒ NA

■ Are vacuum attachments used for sanding equipment?

❒ Yes ❒ No ❒ NA

■ Is fiberglass work conducted in specially designated areas, using tarps, drop cloths and protective drapes to prevent unintentional contamination of yard surfaces and receiving waters and to control fugitive dust emissions?

❒ Yes ❒ No ❒ NA

■ Has your company evaluated the use of paint gun solvent washers where feasible for cleaning spray guns?

❒ Yes ❒ No ❒ NA

■ Do you allow cleaned parts to drain inside of a solvent sink for a few minutes to minimize dripping of residual solvent onto shop floor?

❒ Yes ❒ No ❒ NA

■ Have you tried collecting thinners and solvents together, allowing sludge to settle to the bottom and then draining off reusable solvent from the surface? The reclaimed solvent can be used for cleaning equipment. (On-site reclamation of spent materials can minimize the volume of waste generated and reduce cost of disposal and cost of purchasing new product.)

❒ Yes ❒ No ❒ NA

■ Have you considered using a solvent reclamation service? (Solvents can be recycled or reclaimed if the spent material is properly handled. Use of a solvent sink or bath for either paint gun cleaning or parts cleaning in machine and engine repair application reduces waste from spillage or evaporation. A cost savings can be realized if spent solvent is reclaimed rather than sent for disposal.)

❒ Yes ❒ No ❒ NA

■ If you generate too many small volume solvent waste streams to justify on-site distillation, is it feasible to standardize the solvent used for equipment cleaning so that spent solvent can be combined for distillation?

❒ Yes ❒ No ❒ NA

■ Is waste water from pressure washing collected and treated prior to discharge to the sanitary sewer or a wastewater recycling system?

❒ Yes ❒ No ❒ NA

■ Do you use a closed loop recycling system for collection and treatment of pressure wash water?

❒ Yes ❒ No ❒ NA

■ Has your company obtained a NPDES boatyard stormwater permit from the RWQCB? (To obtain a permit, you must file a Notice of Intent, a Stormwater Pollution Control Plan, and periodic monitoring results and reports).

❒ Yes ❒ No ❒ NA

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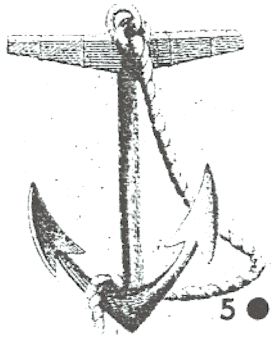

■ Have all employees who apply anti-fouling paints, both tin-based (TBT) and copper-based, obtained a pesticide applicator's license? (Because anti-fouling paints are designed to inhibit growth of marine organisms, they are required by federal EPA to be registered as pesticides. Therefore, an applicator's license is required for those applying anti-fouling paint or those supervising the application of anti-fouling paint.)

☐ Yes ☐ No ☐ NA

■ If you use solvent cleaning vapor degreasers, are all cleaning tanks covered when they are not in use to prevent vapor loss?

☐ Yes ☐ No ☐ NA

■ Are degreasing units placed in area of shop where drafts will not enter them and push out vapors?

☐ Yes ☐ No ☐ NA

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V. HAZARDOUS WASTE MANAGEMENT & DISPOSAL

There are numerous requirements for hazardous waste generators regarding the storage, handling, transportation and disposal of hazardous waste. Local waste management agencies, your local environmental health department, or your local fire department may be responsible for enforcing these regulations. Check with your local regulatory agency as to the specific requirements for waste generators in your area.

■ Is your facility in compliance with hazardous materials storage, hazardous waste generation and storage, and emergency response procedures?

☐ Yes ☐ No ☐ NA

■ Have you notified the Department of Toxic Substance Control (DTSC) or local authority charged with regulating hazardous waste generators of hazardous waste generation? Have you obtained an EPA ID number?

☐ Yes ☐ No ☐ NA

■ Have you implemented a proper waste tracking system (i.e. proper documentation regarding the types and volumes of hazardous waste generated, copies of all manifests, and the disposal or reclamation practices for those wastes)? Is this system in compliance with the requirements of DTSC or your local regulatory agency?

☐ Yes ☐ No ☐ NA

■ Are hazardous wastes segregated? For example, is spent anti-freeze stored separately and recycled? Is waste oil stored separately? Are solvents segregated?

☐ Yes ☐ No ☐ NA

■ Does your company have a strict housekeeping policy? Is the yard swept and inspected for leaks and spills on a daily basis?

☐ Yes ☐ No ☐ NA

■ Are all hazardous waste storage drums or containers labeled both as "hazardous waste" and with a description of the contents, for example, "Used Anti-freeze." Are containers labeled with date accumulation begins?

☐ Yes ☐ No ☐ NA

■ Is the storage area labeled with warning signs indicating hazardous wastes stored there?

☐ Yes ☐ No ☐ NA

■ Are hazardous waste storage areas locked? (Without secure storage facilities, unauthorized persons may enter the storage area and harm themselves, spill the waste, or dump waste into your containers.)

☐ Yes ☐ No ☐ NA

■ Are you in compliance with the time limits on storage of hazardous waste? (If you generate less than 100 kg. hazardous wastes per month, state law permits you to store them on-site until 90 days after the 100 kg. limit has been reached. If you generate greater than 100 kg. per month, state law requires you to ship the waste off-site within 90 days of the day the waste first begins to accumulate.)

Your county or city may offer a hazardous waste disposal program for Very Small Quantity Generators. Contact your Local Agency, listed under "Resources and Information," for more information. (To be a eligible as a VSQG, your business must generate less than a total of 220 pounds of hazardous waste per month or 2.2 pounds of acutely hazardous waste. In general, 220 pounds is slightly less than 1/2 of a 55 gallon drum or the equivalent of 27 gallons of liquid waste.)

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VI. PRODUCT SUBSTITUTION

By using less toxic products, you reduce the environmental impact of your operations and the quantity of hazardous waste generated. Using less hazardous materials on-site makes the workplace safer for your employees. In response to increased environmental regulation, manufacturers are developing products which they claim are less harmful to the environment. The following questions address some of the product substitutions that may apply to your operations. **Please note that this Office does not endorse any particular products. Some types of products are mentioned merely as examples. This Office has not tested these products and makes no warranty as to effectiveness or reduced environmental harm.**

■ Have you considered using less toxic products in order to reduce potential liability and increase worker safety and health?

☐ Yes ☐ No ☐ NA

■ Have "hard" non-ablative anti fouling paints been offered to customers? "Hard" non-ablative anti fouling paints are available from several manufacturers and provide extended anti fouling protection without leaching or sloughing toxic metals into the marine environment. (Examples include: non-sloughing copper-based paints, epoxy coatings, Teflon and silicone coatings.)

☐ Yes ☐ No ☐ NA

■ Where feasible, have you tried using water-based paints and adhesives? (These products reduce VOC emissions, require less hazardous chemicals for tool cleaning and reduce the amount of hazardous waste generated.)

☐ Yes ☐ No ☐ NA

■ Have you provided customers with information on less toxic or hazardous products for cleaning, painting, varnishing, etc.?

☐ Yes ☐ No ☐ NA

■ Have substitutes for acetone been employed? (Use of acetone replacements reduces hazardous chemical use and hazardous waste generation. New products which emit lower VOCs can be used as a direct acetone replacement. Low VOC products also reduce evaporation. Some acetone replacements can also be distilled with a 90% recovery rate. Detergent degreasers can be used instead of acetone for removing resin residues from tools and parts.)

☐ Yes ☐ No ☐ NA

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■ Have you switched from solvents traditionally used in marine processes to less hazardous solvents, such as, terpene products, detergents, and non-chlorinated solvents ?

☐ Yes ☐ No ☐ NA

■ Has your company investigated using a water-based material for paint stripping instead of a solvent based stripper?

☐ Yes ☐ No ☐ NA

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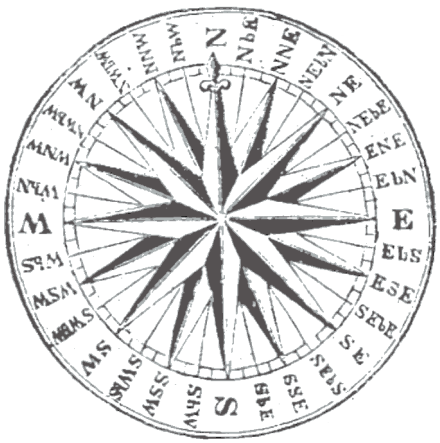

VII. OTHER HAZARDOUS WASTE MINIMIZATION TECHNIQUES

■ Do you segregate oil from bilge water and discharge the wastewater to the sanitary sewer or a wastewater recycling system?

☐ Yes ☐ No ☐ NA

■ If you frequently perform abrasive hull blasting, have you considered recovery and reuse of the blasting medium? A cyclonic separator can be used to separate paint chips from blasting medium.

☐ Yes ☐ No ☐ NA

■ Are you using oil absorbent pads for cleaning leaks and spills in place of granulated kitty-litter type material?(Some absorbents can be reused after oil is wrung out.)

☐ Yes ☐ No ☐ NA

■ When you have deteriorated or off-specification materials that you want to get rid of, have you considered finding a business that can use the material? Refer to the California Waste Exchange's "Directory of Recyclers." The California Waste Exchange lists materials both wanted and available. For information about the Waste Exchange, call the Department of Toxic Substances Control at (916)322-7676.

☐ Yes ☐ No ☐ NA

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VIII. RESOURCES AND INFORMATION
STATE AND FEDERAL AGENCIES

California Environmental Protection Agency

Department of Toxic Substances Control (Region II) (510)540-2122
Regulates the treatment, storage and disposal of hazardous waste. Also provides on-site small business consultation.

California Department of Boating and Waterways (916)445-9657
Regulates and supports boating activities in state waters. Call for information about funding for the installation of sewage pumpout facilities.

California Department of Fish and Game

General (916)653-7664
Oil Spill Prevention & Response (916)445-9338
Responsible for the protection of state fish and wildlife. Responds to pollution incidents which effect the marine environment.

US Coast Guard

National Response Center (to report spills) (800)424-8802
Marine Safety Office (510)437-3073
Responds to hazardous waste spills. Enforces marine debris and sewage regulations which apply to recreational boaters. Provides educational materials for boaters through the Marine Safety Office.

LOCAL AGENCIES

Marin County Hazardous & Solid Waste Management Authority, Office of Waste Management (415)499-6647
Operates hazardous waste collection and education programs for businesses and households. Administers the Hazardous Material and Underground Storage Tanks Programs. Provides information on "clean and green" boating.

San Rafael Fire Department (415)485-3308
Administers hazardous materials and underground storage tank programs for businesses in the City of San Rafael.

REPORTING MARINE MAMMAL INJURIES

Marine Mammal Center (415)289-7325

REPORTING A HAZARDOUS WASTE SPILL

National Response Center (800)424-8802

In WA, CA, OR or BC (800)OIL5-911

Office of Emergency Services (OES) (800)852-7550

OES (non-emergency) (916)262-1621

Regional Water Quality Control Board (510)286-1255

SEWAGE PUMP-OUT FACILITIES

SF Estuary Project (for locations, maps, information) (510)286-0460